

Book review

Australian Marine Shells. Prosobranch Gastropods. Parts 1 and 2. By B.R. Wilson. Odyssey Publishing, Kallaroo, W.A. 1993 and 1994. Price: \$125 per volume. ISBN 0 646 15225 4 (set).

We have seen a few books on Australian molluscs in the last two decades but this work is surely worthy of land-mark status and is superior to most similar books that have appeared world-wide. The two volumes by Barry Wilson, Australia's senior malacologist, are the most lavish we have seen since Wilson and Gillett's *Australian Shells* appeared in 1971. These two superbly illustrated books largely fill a long recognised need - a reliable identification guide to the majority of the larger-sized Australian marine shelled gastropods. They are a must for anyone interested in shells, or in identifying Australian gastropods.

The books are sprinkled with magnificent photos of living animals - and for this alone they are worthwhile. Another important aspect is that the two volumes provide access to identifications of common faunal elements that were previously not covered in the popular or semi-popular literature. This work is thus important as a source for identifications in many groups not reviewed in the literature elsewhere. While some of the species taxonomy and choice of generic names can certainly be argued about, this is a fine first attempt at providing an accessible source of names for many groups. Probably for this reason, more than any other, this work will be a valued reference source for many years to come. However, this is certainly not, as Barry Wilson would be the first to admit, the final work on Australian gastropods. Wilson estimates that there are perhaps 10,000 Australian species of marine molluscs. However, when all the deepsea and small and minute species are taken into account the number is probably closer to twice this, although a very large proportion remain unnamed. Gastropods comprise at least 80% of molluscs and according to the flyer these volumes deal with about 2400 species. Thus these volumes cover between only 13% and 30% of Australian gastropods, depending upon which estimate is accepted. Clearly there is still much work to be done!

This work only includes "prosobranch" gastropods - as indicated by the subtitle. This may be a source of confusion for those who read only the main title of the book and fail to see the small print subtitle; or for those who do not know what constitutes the paraphyletic Prosobranchia. Consequently, the book excludes not only all non-marine gastropods, as well as the shell-less seaslugs, but the shelled opisthobranchs and marine pulmonates are also omitted. Volume 1 deals with the non-neogastropods and volume 2 the neogastropods.

The first volume contains a brief (19 pages) introductory section on collecting, taxonomy and classification and a short list of basic references for these subjects. There is a list of journals and the addresses from which they can be obtained - some of which are incorrect (including the address for this journal). The very short section dealing with classification incorporates some of the ideas on gastropod classification introduced in the late 1980s. The "subclass" Heterobranchia is erroneously recognised as separate from the "subclasses" Opisthobranchia and Pulmonata. The concept of Heterobranchia introduced by Haszprunar (1985) includes the euthyneuran groups (pulmonates and opisthobranchs) which are reduced to a lesser rank. The name Docoglossa is used for the Patellogastropoda (see Lindberg, 1988) and Lindberg's classification for this group is not

used, although it was introduced in the same volume as Ponder and Warén's (1988) treatment of caenogastropods. It is from this same volume which Wilson states he "follows arrangements recommended in those papers ...". Lindberg (1988) uses the family name Lottiidae for the Australian taxa usually included in the Acmaeidae. In the use of Docoglossa, and in other features of the classification of the "lower" proso-branches, Wilson generally seems to have followed Haszprunar's (1988) classification. Neritimorpha (more correctly called Neritopsina) is correctly recognised as a distinct group. The treatment of the almost certainly polyphyletic Cocculiniformia suffers from the author apparently being unaware of Marshall's (1985) review of the New Zealand and New South Wales taxa. Only two species are included by Wilson, one of which (*Notocrater meridionalis*) is *Propilidium tasmanicum*, a member of the Lepetidae in the Patellogastropoda. The other is *Tectisumen tasmanica* which is a member of the Lepetellidae (Lepetelloidea) (B. Marshall, *pers. comm.*). Marshall recognises two cocculinids (Cocculinoidea), four pseudococculinids (Lepetelloidea), and a caymanabyssiid from NSW, the rest of the Australian fauna not being covered in his review.

Other quibbles with the higher classification adopted include the use of the name Archaeogastropoda instead of Vetigastropoda and Pleurotomarioidea to encompass the distinct Scissurelloidea and Haliotoidea. The traditional use of Archaeogastropoda encompasses the patellogastropods and neritopsines so the use of the alternative Vetigastropoda is preferred. The recognition of Seguenzioidea as a group of higher rank than Trochoidea etc. (in this case a "suborder") is now no longer justified (see also Haszprunar, 1993).

Many of the families of small and minute species are mentioned, and in some cases an example is illustrated. It is, however, surprising that at least some of the larger species belonging to the Rissoidae were not illustrated, several exceeding 10mm in length and many being extremely common. In contrast, families with similar sized species - cerithiopsids, triphorids, marginellids, columbellids and even eulimids, are dealt with in more detail. In these cases an overview of morphological diversity is provided but, with few exceptions, the treatment of small species is generally inadequate for reliable identifications.

The books are clearly aimed in large part at shell collectors and this may be the reason why there is a considerable emphasis on the cones, cowries and volutes (one third of the plates, although only 12% of the text). There is, however, also a very good and unequalled coverage of some of the "less popular", groups, particularly those of larger size. However, there is still a significant discrepancy in the treatment of some groups. For example the important and very large Turridae (*sensu lato*) are given a rather cursory treatment - especially if contrasted with the exhaustive treatment given the terebrids and the cones (the latter group should probably be considered a mere subgroup of the turrids).

The 97 plates are all in colour and the photography (by Patrick Baker) of very good quality, although perhaps not quite as good as that seen in a few other recent shell books. Unfortunately, as in many similar books, some of the specimens illustrated are at about life-size and are too small to discern detail, thus being of questionable value for identification. Whereas some species are shown in two or more views others are illustrated from a single view when they need more - e.g. only ventral views of the fissurellid limpet

Montfortula pulchra and the patellid *Patella peronii* are shown. Carina Wilson's nearly 600 drawings of the smaller species grace the books and help provide some of the meat that puts these volumes well above standard shell books.

I am not going to pick out species and genus-level quibbles - in general Wilson has done an excellent job. However, there is, in preparing a book like this, not only the massive task of finding published literature but keeping up with it as sections are written. In the main the important literature is well covered but minor literature is not - thus readers will often not be able to source the paper which justifies the taxonomy used. Readers may also wish to update the taxonomy used and, for this purpose, Ian Loch's "Taxonomic Turnover" in *Australasian Shell News* (ASN) provides a regular excellent review of new taxonomic literature.

In conclusion, I strongly recommend these volumes as the best that have appeared on Australian gastropods. They will be an essential reference source for anyone interested in our fauna.

Below I note a few changes that have occurred since the book was prepared for publication, and also list some papers that were not included which bear on the taxonomy used. I have not included points noted by John Healy's review of volume 1 (ASN 87, 1994) and this list is not in any way intended to be exhaustive. It is hoped, however, that readers will be able to use it as a start to a supplementary reference source for the two volumes.

Volume 1.

Marshall (1988) describes several new taxa which he includes in Skeneidae and a vitrinellid from NSW.

The Dialidae encompasses a number of taxa that should be included in the Litiopidae (e.g. the species "*Diala*" *monile* - see Ponder and de Keyser, 1992 for details).

Seguenzidae - there have been several recent papers on this family, two of them by Marshall (see Marshall, 1991) for details and references.

The Fossariidae is now a subfamily of the Planaxidae (Houbrick, 1990) and, since the publication of volume 1, Obtortionidae is included in Scaliolidae (Ponder, 1994). Houbrick (1993) reviewed the genera related to *Bittium*.

There has been a major review of the taxonomy of the genus *Bembicium* (Reid, 1988) and *Peasiella* (Reid, 1989b). Bandel and Kadolsky (1982) advocated using *Nodilittorina* for many of the Indo-West Pacific and Australasian taxa previously (and in this volume) referred to *Littorina* and this has been supported by Reid's (1989a) phylogenetic analysis of the family.

Skeneopsidae should be removed from the Australian fauna - it is an exclusively western Atlantic-Mediterranean group. The inclusion of *Starkeyna* in this family is certainly wrong, that genus probably being a synonym of (or at least closely related to) *Vitrinella*.

Truncatelloidea has been replaced by Rissooidea (ICZN Opin. 1664).

Assimineidae - In the brief coverage of this family one of the species names is incorrect. *Assiminea tasmanica* is now *A. buccinoides* (see Ponder and Clark, 1989) and

A. brazieri is *Hydrococcus brazieri* (family Hydrococcidae).

Barleeidae was split into Barleeidae and Anabathridae by Ponder (1988) - the species illustrated is actually an anabathrid and it is this group to which most of the Australian taxa belong. Also, the Australian monotypic family Emblandidae is not listed.

Loch (in ASN 71, 1990) summarised the distributions of Australian species of Strombidae and added additional taxa to the fauna but these amendments have not been included.

Surprisingly, Struthiolariidae (with the endemic genus *Tylospira*) has been omitted - presumably as an oversight. Darragh (1991) has reviewed the Australian Recent and fossil species of *Tylospira*.

There is no reference to the important and relevant paper on New Zealand cerithiopsids by Marshall (1978).

Loch (in ASN 78, 1992) revises the species of *Ataxocerithium*.

Two very important uncited papers on epitoniids (Kilburn, 1985 and Bouchet and Warén, 1986) are relevant to our fauna.

Several papers describing Australian taxa in Eulimidae have been published (e.g. Warén 1980a, 1980b, 1981, 1983; Warén and Crossland, 1991; Ponder and Gooding, 1978).

Haloceratidae (Warén and Bouchet, 1991) is not mentioned. This family includes several Australian species.

Volume 2.

The suggestion by Ponder and Warén (1988) that Fasciolaridae, Nassariidae, and Melongenidae be treated as subfamilies of Buccinidae has been followed. Ongoing studies on the phylogeny of this group (using molecular data) by M. G. Harasewych and his coworkers suggests that this is an oversimplification but to date no alternative classification has been proposed.

Kool (1993) revises the classification of the group of genera similar to *Thais* and *Rapana* ("Thaidinae" = Rapaninae).

Hexaplex conatus - it is noted (p. 31) that "the radula is not yet described" but this is now done (E. Vokes, ASN 82, 1993).

Loch (ASN 79, 1992) revises and corrects some of Cernohorsky's treatment of Australian Nassariinae. While some of these amendments have been made this useful article is not cited and additional species to those covered in the book are recorded from Australia.

The taxa included in Olividae have been subdivided into three distinct groups - Olividae, Olivellidae and Pseudolividae by Kantor (1991) based on anatomical differences.

Mitridae - *Mitra carbonaria* is cited as being "very variable". Ian Loch (ASN 65, 1989):4) has shown that Cernohorsky's concept of *M. carbonaria* consists of at least two species, *M. carbonaria* and *M. badia*.

Taylor *et al.* (1993) recognise four families for taxa usually included in the Turridae (see Taxonomic Turnover, ASN 85/86, 1994) for details). Kilburn's important papers on South African turrids published within the last 10 years deserve mention as being relevant to the Australian fauna. Sysoev and Kantor (1988) describe a large turrid from south of Tasmania (*Aforia tasmanica*). Kosuge's series of papers from 1977 to 1994 in the Bulletin of the Institute of Malacology, Tokyo on the north western turrid fauna are not referenced, although some of the species he recorded are included. Loch (ASN 80, 1992) has reviewed the Australian species of *Leinardia* and *Hemilienardia* - two genera not included in the book.

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